The State Society Meets in Wichita May 3, 4 and 5.

The Journal

OF

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Volume V | February 1, 1905 | Number 2

ETIOLOGY AND PREVENTION OF TYPHOID FEVER.*

S. J. CRUMBINE, M. D.

Secretary of the State Board of Health, Topeka.

Our annual reports year after year, of thousands of cases of a serious preventable disease, involving a large mortality and a huge economic loss, strongly suggests the imperfection or insufficiency of our prophylactic measures. This applies to typhoid fever in Kansas. Ten thousand seven hundred and twenty cases, and three thousand four hundred and fifty-one deaths, and an economic loss of millions of dollars is the record for the decade ending with 1903. Moreover, of the usual diseases, none, with the exception of tuberculosis can compare with typhoid fever in importance. This is true not only because of the mortality, but also because it attacks by preference strong and robust individuals between the ages of 18 and 40, and because it involves a disability measured by months, rather than by weeks and days. Furthermore, we can no longer plead ignorance of its cause and methods of dissemination, and the lessons taught by repeated epidemics, are familiar to every tyro in the study of medicine.

*Read before the Golden Belt Medical Society, January 5, 1905.

What may be termed our working knowledge of the disease is ample, and may be briefly summarized as follows: It is caused by the bacillus typhosus, an organism which exists in large numbers in the stools, urine, saliva and perspiration of patients, and which may persist for months, or as some authorities have said, even for years in the urine of patients, after they have been discharged as cured. It may also be harbored by healthy individuals.

Patients receive the infection by the mouth in water, milk or food, these having been infected by the bacillus by one of the ways hereinafter described. The bacillus has been demonstrated to be present in waters used for drinking, and their relationship to epidemics so clearly proven, that there can be no question as to this being a frequent source of infection, and where the disease assumes an epidemic form, is in a large majority of cases the undoubted source of infection.

Dr. John S. Fulton writing in the *Journal of the American Medical Association* January 9, 1904, says:

"Typhoid fever is essentially a rural disease, its propagation in general is from the country to the town, rather than from the town to the country. To strike at the root of the matter, we should not wait until sickness appears, but should anticipate the occurrance of infection. Surely preventive medicine must engage the serious thought of every true and honorable member of the profession, and the time is now here when preventative medicine and curative medicine go hand in hand, and are equally important to the individual, the state and the nation."

If Dr. Fulton is right, then such anticipation can only be done by a comprehensive rural sanitation. With the state becoming thickly settled, with milk and vegetables brought from every direction to the towns and cities, and with the larger centers of population reaching out farther and farther for their water supply, we must now look upon even the remote rural inhabitant as a neighbor, and take a lively interest in his well, his yard and the brook that traverses his farm. By waging an effective warfare at this hitherto neglected point we can prevent the pollution of water and milk, and the conveyance of infection by dust and flies. The rural privy is the original plague spot, although the casual or unusual deposits of infectious excreta may at times play a part. The location of the privy is usually based solely on considerations of the farmer's convenience of access and a moderate degree of privacy, little or no thought being given to the direction of the flow of the ground water. The building is seldom cleaned, rarely screened, and the vault is never disinfected. Thousands of flies make daily pilgrimages to this pathogenic nursery, and the chickens and pigs are not unknown visitors to the delectable mess.

It is in truth a Herculean task to accomplish a reform involving so much perplexing detail, but the task is insignificant when compared with the evil which its accomplishment would, in a large measure avert. It must be done sooner or later, and when it has been put into effective operation the wonder will be that it was not sooner undertaken.

The first step in bringing about the reforms suggested should be the formulating of the best practical methods of keeping privy vaults in a sanitary condition. The next, the appointment of a number of civil engineers as a permanent force of state sanitary inspectors whose duty should be to make a complete sanitary survey of the state, with power to condemn improperly located and improperly managed privies. They should also instruct the people as to the best use of screens, the care of manure heaps to prevent the breeding of flies, and the general sanitary management of stables and yards. They should make frequent rounds of their respective districts, reporting in writing to their superintendent. The whole matter might well be placed under the control and direction of the state board of health.

Inasmuch as the entire surface of the state is but a water-shed which drains into our rivers, from which the cities in most instances, in Kansas at least, get their water supply it can readily be seen that the matter of rural sanitation is an exceedingly important one. But not only may the bacillus through these means be gathered as an infection to pollute the water supply of cities taking such from streams, but the emptying of sewers from the cities themselves into streams is also an additional method of infection and cannot be too strongly condemned. Were it not for certain natural processes whereby the running waters in streams have a tendency to purify themselves they would soon become little better than open sewers carrying death and destruction in their wake. These natural factors are, first, the small amount in many waters of sufficient organic matter to serve as food for the bacteria; second, the destructive action of sunlight; third, the antagonistic effect of many harmless micro-organisms indigenous to many waters. There is little reason to believe that pathogenic organisms usually multiply to any degree after gaining entrance to most of the potable waters, but it is possible that water may be consumed at such an early period after it is contaminated that the infectious agents may not have yet been killed. The rapid flow of water in most of the Kansas streams make them particularly dangerous when infected; as the water from the point of infection will have gone a considerable dis-

tance before these natural agencies may have accomplished the destruction of the pathogenic organs.

Some experiments were conducted in Chicago in the fall of 1903 by the Chicago Health Department to determine if possible the length of life of the typhoid bacillus as found in the waters of Lake Michigan, the Chicago drainage canal, and the Illinois river. From the experiments recorded it appears that under conditions that probably closely simulated those in nature the vast majority of bacilli introduced in the several waters perished within from three to four days. Authors state that it is theoretically possible that specially resistent cells may occur which are able to withstand for a longer period the hostile influences evidently present in water. Their experiments show, however, that if such resistent individuals exist they must be very few in number and constitute only a small fraction of the bacilli originally entering the water.

A frequent source of infection may be the contamination of the water supply as contained in the well, cistern or spring. Such contaminotion may be either from fecal matter threwn upon the ground near such well, cistern or spring, and washed into the same through surface drainage, or the cistern may become contaminated by defective plumbing, as was instanced in a case which came to my notice but recently. A gentleman living in the northern part of the state having a cistern as a water supply had a case of typhoid fever in his family several years ago. This case was followed by a second one. Removing from that city to Topeka his house was rented and in a short time a member of the family renting was taken sick with the disease, the child dying, and this was followed by a second case, whereupon it became evident to the attending physician that there must be some infectious point about the premises. Investigation of the sever pipe leading from the closet to the main sewer, and but a few feet outside the cistern wall, disclosed several leaky joints whereby the cistern became contaminated with the sewer washings, infecting the drinking water. Such cases unquestionably are of frequent occurrence, and suggest the importance of a careful inspection of the plumbing of the house in all cases of typhoid fever.

The contamination of milk cans by washing them with infected water, and of uncooked vegetables or fruit through the same cause has been clearly proven.

One of the most frequont cause of infection in my judgment is that of flies. The common house fly aside from the personal annoyance that its presence creates, has been conclusively shown to possess habits fraught with great danger to health and life. Recent experiments show that beyond a reasonable doubt it is frequently the direct means of conveying the typhoid germ from open cesspools to articles of food to which it may have access.

Majors Firth and Horrocks, medical officers in the British army, made careful examinations of flies which had been permitted to crawl over stools from typhoid patients, and they were found to contain the typhoid germs on their heads, legs, wings and bodies. The results

of the investigation of the United States Army medical commission into the causes of typhoid in the military camps during the Spanish-American war further demonstrate the possibility of evil possessed by these insects. Their report says: "Flies were undoubtedly the most active agents in the spread of typhoid fever. Flies alternately visited and fed on the fecal matter and the food in the mess tents. More than once it happened that when lime was scattered over the fecal matter in the pits flies were seen walking over the food. It was also observed that typhoid fever was much less frequent among messes who had their tents screened than it was among those who took no such precautions."

Such indictment should be at least sufficient to condemn the house fly to banishment from our homes and if possible to death. Not only may flies infect the food in our homes in the manner indicated, but I am persuaded that infection is frequently conveyed to over-ripe or bruised fruit and vegetables displayed in ordinary grocery stores. It is an almost universal practice, especially in the city of Topeka, for grocery men and fruit men to display their fruit and vegetables on benches on the sidewalks in front of their stores open to the ravages of flies and other insects. and ready to receive the deposit of all kinds of street filth, dried sputum and pathogenic germs that the passing breeze may bring. The practice is most reprehensible and dangerous in the extreme, and should receive the severe condemnation of this society and every regular physician. I am fully persuaded that in one instance at least I have had a case of typhoid fever in my own practice from infected fruit.

It has been said that oysters may carry the infection of typhoid fever. It was formerly the practice to plant oyster beds near the mouth of sewers that they might better fatten thereby. This resulted in a number of epidemics of typhoid fever and at least one of cholera on the continent It seems that nothwithstanding these investigations and clear proofs that we still occasionally have infected oysters to deal with. You may call to mind the epidemic of typhoid fever which occurred in a wedding party at Wellington a short time since Indeed, many of the victims have not yet recovered from the disease. Upon hearing of these unusual cases I asked the county health officer to institute a searching investigation and determine if possible the cause. Unfortunately, all the material used at this wedding party had been disposed of before the cases came down, but it seems to be the unanimous opinion of the physicians in Wellington that the infection was caused by infected oysters eaten at the wedding dinner.

It has been demonstrated several times to the entire satisfaction of the investigators that typhoid epidemics have been caused by the raising of vegetables on grounds fertilized by filtered sewage. The State Board of Health of Massachusetts demonstrated that an epidemic of typhoid fever at the state hospital for the insane at Northampton was spread by celery raised on the premises in beds watered by filtered sewage. The disease occurred in those who had eaten celery, and the avoidance of this vegetable was effective in checking the spread of the infection. Only this summer the Chicago Board of Health condemned a quantity of celery

that had been raised in this manner, after demonstrating to their entire satisfaction that it was infected. Ferre has reported an epidemic that occurred in a girls' school affecting only the boarders and not the day scholars, in which it was found that the vegetable garden from which the school was supplied was watered with contents of a cesspool.

These various modes of infection and the well known source of the infected material from the individual person at once suggest the means of prevention. That the germs can be destroyed in every event before they have an opportunity to become a danger to other individuals is quite generally admitted. We have various materials which are germicides to the bacilli of the disease; and if not, let our pathologists ascertain the facts and devise such a material or method that will assure the destruction of the germs in every case by the fecal matter, the urinary secretions, the secretions of the salivary glands, the expectoration and sweat glands. Flies must be prevented from entering a house containing a typhoid patient, or if they enter destroy them before they escape from the apartments. All excretions and waste must be properly deposited after disinfecting at some point a safe distance from any drinking water or possible drainage into underground streams or cisterns. The well known epidemic at Plymouth, Pennsylvania, in 1885, is an example of what might have been done to prevent the occurrence of the epidemic. If the stools and excretions of that one case had been sterilized instead of having been thrown out on the frozen creek side the calamity of the Plymouth epidemic would have been prevented.

The State Board of Health has prepared a bill to present to the legislature this winter which contemplates putting the municipal water supply and sewerage systems, and the general supervision of the waters and streams used for public water supply under the direct supervision of the State Board of Health, and I believe that such a bill whose purpose it is to prevent the pollution of our streams should have the hearty co-operation of every citizen in the state of Kansas, but more especially the physicians who are so familiar with the propagation of this dread disease. May we not expect co-operation in helping us to have this bill favorably acted upon by the legislature?

[See also Professor Bartow's paper in this JOURNAL]

Colorado Medicine—The organ of the State Society of Colorado has decided to exclude all advertisements from its pages until it can command a class of advertising about which there will be no question. This decision will cost the society probably $1,000 a year.

WATER SUPPLIES OF SOUTHERN KANSAS.*

EDWARD BARTOW.

Department of Chemistry of the University of Kansas, Lawrence.

[We have had to abstract Prof. Bartow's paper in order to include it in this issue. Prof. Bartow introduces his subject by relating the work done in studying the waters of this state and the necessity for such study. He then defines the territory studied by him.—Editor.]

I will deal only with the watersheds of the Marais des Cygnes, Neosho and Verdigris rivers; because I have made some sys-systematic examinations of these three rivers. These rivers drain all or a part of twenty-two counties, having an area of fourteen thousand square miles, and a population of about 400,000. In area these counties equal in size the combined areas of the states of New Hampshire and Connecticut, and they were as thickly populated as either New Hampshire or Vermont, at the time of the last census. Moreover the population has greatly increased since the last census, owing to the rapid development of the gas and oil fields.

The gas fields had been drawn upon for several years for city gas supplies and a small oil refinery was operated at Neodesha prior to 1901. It is from that date that the operations began to assume the colossal dimensions that in a few years will make the Kansas, Indian Territory, Oklahoma field the greatest in the United States, and probably the greatest in the world. The output of oil has increased one hundred fold in the last four year, from 200 barrels per day to in 19,006 to 20,000 barrels per day in 1904. The handling of this oil means a large increase in population, and in addition brick plants, cement works, zinc smelters, and glass factories are using the gas and bringing thousands of people into the section.

It is necessary to provide an abundant supply of pure water for this increased and increasing population and it is necessary to take proper care of the sewage from these enlarged and enlarging cities. The individual city will have a tendency to look out for itself, to the possible, even probable detriment of neighboring cities. For example, a city may obtain its water supply from one of these rivers and dispose of its sewage in the same river farther down the stream. At certain seasons of the year, the rivers in this southeastern section are so decreased in volume that they will not afford sufficient dilution to purify the organic matter which exists in these enlarged and enlarging cities. One such case suffices to show that the state should have a general oversight of the water supplies and sewage systems throughout the state of Kansas.

In order to learn definitely the source of water supplied to the

*An address delivered at Topeka, Dec. 30, 1904, before the thirty-sixth annual meeting of the Kansas Academy of Science.

cities of this southeastern section, I have addressed letters to mayors of said cities. According to the United States Gazetteer for Kansas (1891) there are 119 cities and villages in this section of the state; thirty-five in the Marois des Cygnes watershed, fifty-six in the Neosho, and twenty eight in the Verdigris. I have received replies from seventy-five of the cities and find that twenty-seven have already a public water supply, nineteen of which obtain their supply in whole or in part from these rivers. Only thirteen have public sewers, and as far as my knowledge extends these empty into these rivers. Thirty-nine from which replies were received obtain their supplies from wells and cisterns. A few obtain their supplies from springs and one from a lake.

We thus see by an examination of the reports that the source of the water used by these cities is either cisterns, wells or rivers,

[Prof Bartow then goes on to discuss the uses and relative values of the three sources of water cisterns, wells and rivers. He shows the great liability to infection of wells, especially in thickly settled regions.]

The third source of water supply to be considered, surface water, may be described as a combination of rain water and ground water. This water is usually from lakes, rivers or impounding reservoirs. In southeastern Kansas there are no large lakes, hence the streams are the only source of surface water to be considered.

To be entirely pure a surface water should be collected from an uninhabited region. New York City obtains its water supply from surface water. Considerable areas have been depopulated, farms have been condemned, and even whole villages have been removed from the watersheds of its reservoirs. It has become a great problem to furnish a sufficient supply of pure water, and at present they are contemplating still further operations of the same kind.

In southeastern Kansas the rivers necessarily receive the drainage not only from houses, but from streets and barnyards. The organic matter in this drainage will be removed and destroyed, if there is sufficient dilution, and if there is a sufficient lapse of time between the contamination and the use of the water. The greatest danger lies in contamination by disease germs. Some are nearly always present in the sewage of a city.

An illustration of the effect of such contamination is the typhoid epidemic that raged in the Hudson valley in 1890-91. Prof. Wm. P. Mason, of Rensslaer Polytechnic Institute, (Water Supply, p. 33), investigated in person and describes it somewhat as follows: The epidemic began at Schenectady in July, 1890. The drainage of Schenectady passes into the Mohawk river. Typhoid fever broke out at Cohoes, farther down the river, in October, and at West Troy in November. These cities obtain their water supply from the Mohawk, and return their sewage into the Mohawk and the Hudson. Typhoid fever broke out at Albany six miles below West Troy in December. Albany's water supply is obtained from the Hudson, opposite the city. There was practically no typhoid in Waterford and Lansingburgh, cities connected to Cohoes by bridges, but cities that obtain their water supply from the Hudson above the Mohawk junction and from the hills respectively. There was also no fever in Troy proper, supplied with water from the Hudson above the Mohawk junction. Albany, at least, has since introduced a filtration line.

Not only can a river be infected by sewage from a city, but it may be infected by a single individual. The fecal discharges of a person suffering from typhoid fever thrown upon the ground have been known in well authenticated cases to have been washed by rain or melting snow into a stream which serves as a water supply. The outcome was a serious epidemic with loss of life.

Cities are being built up so near each other on these Kansas rivers that it seems advisable to suggest and even to demand that no untreated sewage be allowed to flow into these streams, and that no unfiltered water be allowed to enter the service pipes of any water system.

Special caution is needed in this section for an abundance of water can only be obtained from these rivers. Think of the list of larger cities on the Neosho, all taking their water supply from this river, and emptying their sewage directly or indirectly into it. Emporia, Burlington, Iola, Humboldt, Chanute, Erie, Oswego. The same statement may be made of the cities on the Verdigris, though a smaller list on a smaller stream, Fredonia, Neodesha, Independence, Coffeyville.

A chemical examination of the water of these three river systems was carried on in the laboratory for water analysis of the University of Kansas during 1903-04. The expenses of collection were defrayed by the division of Hydro-Economics of the United States Geological Survey. The work was under my direction and I was ably assisted by Mr. W. A. Sellards, K. S. U. 1903, and by Mr. P. C. Jeans, K. S. U. Collections of water were made principally during the college year at Ottawa, Lacygne, Emporia, Burlington, Chanute, Oswego, Benedict, Independence and Fredonia. Turbidity readings have been made since July, 1904, at Ottawa, Emporia, Oswego and Fall River. Results are to be published in full. The most important conclusion to be drawn is that these rivers, on account of the organic matter and turbidity do not furnish a water that can be used as a household supply without treatment. Investigations should be undertaken to find the best method of treatment for rendering it serviceable; whether by filtration, or by settling basins, with or without a coagulent. Preliminary tests when a treating plant is to be established are almost a necessity, and have been shown to be of great value at Louisville and Cincinnati, where the Ohio river was tested.

As a rule a turbid river water contains organic matter and bacteria, but sometimes a turbid well water may be practically germ free, when the water of a deep well contains a large amount of ferrous iron. Such a water may be clear and bright when first drawn, but become turbid on standing. Most people do not like to drink a turbid water, and will drink instead any clear well water, regardless of its source.

The waters of these rivers must be treated to render them clear and germ free for household use. And it is possible to treat them in such a way as to make them soft for laundry and manufacturing

purposes. The question that occurs to many is, What is the use? or in other words, Does it pay?

As an example of the use of filteration to obtain a germ free water I will mention the experience of the adjoining cities of Hamburg and Altoona in Germany during the cholera epidemic in 1892. Hamburg used unfiltered Elbe water, while Altoona used filtered Elbe water after it had received the sewage of over 800,000 people of Hamburg. The case-rate in Hamburg was 263 per 10,000 inhabitants, while in Altoona it was only 38 1, and most of these cases had their origin in Hamburg. One part of Hamburg supplied by water from Altoona did not have a single case though surrounded by the disease.

As an example of the value of water treatment to soften it, I will refer to the work of the Santa Fe railroad in analyzing and treating waters through its system from Chicago to California. In the Journal of Locomotive Firemen, Mr. Powers, the chief chemist for the Santa Fe, tells of the work done, and I take the liberty of reviewing his article. In 1902, the Santa Fe began the treatment to soften waters by means of soda, ash and lime. In September, 1904, there were 66 plants in operation, capable of treating from 50,000 to 300,000 gallons of water per day, at a cost of from one to eight cents per thousand gallons. The cost depends on the quality of water. It is calculated that the treatment removes four and one half tons of incrustants daily from 3,570,000 gallons of water used. From the only plant thus far erected in southeastern Kansas, at Neosho Rapids, 150 pounds of incrustants are removed from a daily consumption of 50,000 gallons. The results are highly satisfactory, and the life of the flues and fire-boxes has been more than doubled.

The Kansas cities as individual cities are not large enough to undertake the necessary examinations advantageously. It is a task for the state. Other states and some large cities have established chemical surveys of their water supplies. Considerable surveys of streams, watersheds, and other possible sources of city supplies have been thoroughly examined. Several states have undertaken such work, sometimes from a chemical standpoint only, and in other cases bacteriological examinations have been included.

The most expensive work has been done by Massachusetts, carried on under the auspices of the State Board of Health. Their work was begun in 1887, and made possible by an act of the legislature, which is quoted elsewhere. Connecticut has made similar examinations. New York City has carefully examined its watershed, and has recently extended its examinations to include sources of water supply within 150 miles of the city. Ohio began such work 1897, Illinois has been engaged in a chemical survey for a number of years, and considerable work has been done by the cities of Chicago and St. Louis. Other states have also made examinations, and in many cases have established a standard of purity for the state. All water intended for municipal use must conform to this standard. Michigan and Iowa are examples.

Since geological conditions vary, it is necessary for each state to deal with its own problems and sometimes as in Kansas, the problems must be worked out for different sections of the state. The chlorine standard for the watersheds of southeastern Kansas will not answer for the valley of the Kansas river.

As I have said before, the control of the water supply should be in the hands of the state, and since Massachusetts has done the most work and the best work in solving the problems discussed, I call your attention to the law passed in that state in 1888.

A similar law is entirely possible in Kansas. The water supply

from the rivers of Kansas can be rendered perfectly hygienic. It is my hope that the legislature will direct the State Board of Health to

1. Have a general oversight of the water supplies and the sewage systems of the state.

2. To employ engineers, chemists and whatever expert assistants may be necessary to make a chemical examination of the water supplies, who shall experiment as is necessary with sewage purification, who shall establish a standard of purity for the water to be served to cities and towns, who shall advise cities and town in regard to the care of the supplies already in use, and to assist them in planning further supplies.

SOME FAULTS IN THE LAWS REGULATING THE PRACTICE OF MEDICINE IN THE VARIOUS STATES.*

J. F. JEWETT, M. D.,

Moran, Kansas.

My reason for selecting this subject is the fact that the laws and the rules of the examining boards which have the effect of laws, regulating the practice of medicine in the different states of our nation, vary so widely, and since most of the states do not recognize the certificates of other states, there results a great hardship to the members of the medical profession. I most heartily approve of the means taken by many of the states to abolish quackery and charlatanism, but in many cases the object is not attained, and many of them, either by law or by rule of the examining board, discriminate in favor of the graduates of the colleges of their own states, or else, make the examinations so minutely technical, that only a minority of the well qualified physicians who have been in practice for two or more years can meet the requirements, and secure licence to practice medicine, although the majority could have done so at the time of graduation. I feel sure that each one of you will agree with me in the statement that he himself was better qualified to treat suffering humanity after a few years of practice, than he was at the time of his graduation from his medical college.

Of the fifty-three states, territories, and the District of Columbia, thirteen require examinations only, five require examination or diploma, thirty-four require examination and diploma, and in one state graduates are exempt from examination. Nine states have a good definition of the practice of medicine, something like the folfowing, viz:—*The practice of medicine shall be held to include the use of*

*Read before the Second District Society, March 1, 1904.

drugs and medicines, water, electricity, hypnotism, or any means or method, or any agent, tangible or intangible for the treatment of any disease, deformity or injury of the human subject. Five states have a fair definition, and the rest none at all. In any state having a good definition of the practice of medicine, every person practicing Christian Science (so-called because it has neither Christianity nor science in it), faith cure, magnetic healing, osteopathy or any other vagary, must either pass the same examination as that required of physicians or be prohibited from practicing his nefarious business.

In regard to reciprocity, different sections of the Connecticut law conflict with each other. Delaware has no reciprocity except with New Jersey and Maryland. The law of the District of Columbia provides for reciprocity, but there are no arrangements made for putting it in effect. In Maine reciprocity is very difficult. Each of the states and territories has a good law in this respect, viz:—Maryland, Michigan, New Mexico, Ohio, Oregon, Texas, Vermont and Virginia. New Jersey has a reciprocity law, but it is prolix and burdensome. Pennsylvania and Washington each has a good law in this respect, but it is inoperative in both. In Porto Rico and Wisconsin it is optional with the board. In a number of states having reciprocity, the cost of a licence to a physician holding a licence from another state is $50, while to one taking the examination the expense is from $15 to $25. Arkansas has a good law with regard to patent medicines and Iowa in regard to itinerants. The law of South Carolina is good, with the following exceptions, viz:—There is no reciprocity, and graduates from her own colleges are exempt from all conditions.

While very much more can be said on the subject, I think that I have shown a bad state of affairs, and it seems to me that the remedy lies in a national law with good definition and a thorough examination, by a competent board, no member of which shall be a member of the faculty of any medical college, and a certificate that shall entitle its possessor to practice his profession in any part of the United States of America or its dependencies.

[The chief difficulty with the majority of the laws is that the definition of the practice of medicine is bad. If we could once get a definition through as broad as that quoted in the article, the other weaknesses in our laws noted by Dr. Jewell would soon be remedied of themselves. But without a good definition the whole thing is valueless. We hope that the Kansas statute will soon be improved in this particular.—EDITOR.]

Sanatoria—With the advent to our columns of Dr. Punton's and Dr. Lindsay's advertisements we have a representation of all the sanatoria of Kansas which give special attention to nervous diseases, We trust that our readers when writing to these advertisers will mention the fact that they saw it in our JOURNAL.

SOME UNUSUAL SYPHILITIC ERUPTIONS.*

WM. FRICK, A. M., M. D,

Professor of Dermatology, Kansas City Medical College,
Kansas City, Mo.

The usual varieties of skin manifestations of syphilis are readily recognized by all of you, but one may occasionally meet with a case which will cause him to hesitate and study long before feeling sure of the specific or non-specific nature of the disease.

The primary sore may be readily recognized when single, indurated about the base and with a history of exposure a sufficient length of time before its development,—in other words, when it is a typical primary sore. But I have seen a few cases in which the lesion or lesions developed in three or four days after exposure. These were cases of mixed infection and the sores first developed were chancroidal in their nature; but in ten days or two weeks from the beginning, while most of the sores were healing, one of them became hard or indurated and took the character of a primary sore, which was followed in due time by a secondary eruption.

This observation has been made by a considerable number of observers who are keen and accurate in their observations. There can be no doubt that these two separate and distinct diseases do occur as a matter of fact, developing together at the same point of entrance. The difference in time of development is simply the difference in the nature of the two diseases. Again I have seen, a few times, a sore apparently chancroidal, begin two or three weeks after exposure, show little induration about its base, but run an indolent course refusing to heal after cauterization as the usual chancroid does and finally followed by a secondary eruption, thus declaring its nature positively for the first time. When one of these sores finally heals and the secondary eruption is delayed in making its appearance it is extremely easy to make the mistake of pronouncing the sore a local one and thus creating a feeling of security in a patient which is later disturbed by the appearance of a secondary eruption. It is just these conditions which make it safer to warn our patients not to feel entirely secure for six months after the appearance of a doubtful sore.

*Read at the annual meeting of the Second District Medical Society in Pittsburg, Kansas, March 1, 1904.

The delayed secondary eruptions are unusual but I have had the misfortune to have two of these within the last year: The primary sores were of a suspicious character but not typical and I did not feel like pronouncing the cases positively syphilitic. but treated the local condition and kept them under observation. The sores, which were single, healed after a long course of local antiseptic treatment. The patients remained apparently well until about the end of the sixth month after the first appearance of the sore: Both then had typical secondary eruptions which could not be easily mistaken. Also mucous patches followed the skin eruptions in both cases; in fact the course, after the beginning of the eruption, seems to be the ordinary case of syphilis. I can account for one of these cases being delayed. He had buboes in each groin during the course of the first sore for which he had used some mercurial inunction, but for a limited period. This was evidently enough to delay the appearance of the eruption. In the other case I could not determine the cause of the delay to my satisfaction.

It is quite common to see the development of the large, flat, warty growths, known as the condylomata lata, about the genitals and rectum and extending also down between the thighs. Dr. Marks of this city tells me he had a patient with one of these developed on his forehead, which certainly is a very rare case. This variety develops about the same period as the mucous patch. The acuminate wart, in my experience, has been rarely a manifestation of syphilis. I recall but two of these cases coming in my practice. One of these occurred about the sixth month of the disease and appeared as one large bunch of a very sharply acuminate variety. The points presented were very numerous, the growth was about three fourths of an inch in diameter at the base and was situated in the corona. It extended half an inch or more above the corona and was of a dusky red color. The foreskin could not cover the glans in consequence of it and altogether it presented a striking appearance to say the least. As soon as this patient began to get the effects of mercurial treatment this growth began to disappear and disappeared entirely under specific treatment. The other case developed a number of small pigmented acuminate warts about the third or fourth month. They were scattered over the glands and prepucs and were certainly queer looking warts: These also disappeared under mercurial treatment.

It is, however, in the tertiary age of this disease that we meet with the greatest variations and most frequently fail in diagnosis.

It may be mistaken for cancer and the accompanying illustra-

tion (No. 1) is one that was excised for such. He gives a history of syphilis extending back many years. He has had this ulcer for several years. At one time it was completely excised, but continued to extend except when controlled by the iodides. When the picture was taken it measured about six inches in its long diameter, a little less in its short diameter, was irregularly oval in shape and extended down to the periosteum, but there seemed to be no involvement of the bones. It had completely destroyed the scalp over

FIG. 1.

the greater part of the back of the head. He improved under treatment with the iodides but did not remain under observation long enough to see what could be accomplished. We had in mind skin grafting to cover the back of the head, but he disappeared before ready for it.

A very unusual case came to see me at my clinic in the Kansas City Medical College several years ago. It was an unusual type of the tubercular or nodular syphilide. The nodules developed all over

the face and on the back (see figures 2 and 3). The lips had been involved and the scar tissue left after sloughing of the nodules had contracted the mouth greatly causing a smaller oral opening and the stiffness of the scar tissue made it difficult for her to use the lips. The nose was also involved, both alae and septum. The alae appeared as if trimmed off and the septum was partially destroyed. The nasal bones seemed to escape and hence we did not have the saddleback nose so often seen in syphilis. The evolution of these nodules was about as follows: The nodule made its appearance as a nodule and grew in elevation and width, fairly rapidly reaching

FIG. 2.

FIG. 3.

its maximum size in two or three weeks, in some instances at least, possibly slower in other instances. Their size varied from that of a large pea to a pigeon egg. They stood out prominently above the skin, some of them half an inch or more. After remaining stationary for a time the nodule sloughed *en masse*. It seemed to loosen about the base and all sloughed off together leaving an open ulcer which quickly healed but left a hard scar tissue in its place. New nodules were constantly forming, so that between the existing nod-

ules and the scars left from the old ones her face was in a frightful condition. This condition of affairs had been going on for five years at least. No history of syphilis was obtainable Something about the nodules and their manner of sloughing suggested the tuberular form of lerosy. My knowledge of leprosy at that time was limited to reading and the pictures shown in the literature of the subject. Later I had the good fortune to visit the leper colony, near New Orleans, in company with a number of dermatologists and must conclude, after examining closely the cases there, that this condition was after all not like tubercular leprosy.

A piece of a nodule was excised and search made for the leprae bacillus. Microscopic examination showed none but instead the round celled infiltration commonly seen in syphils.

Treatment with iodide of potash was instituted and a rapid disappearance of the nodules took place. Besides the disappearance of the nodules we also observed a decided softening of the hard scar tissue. The lips became soft and pliable again and the mouth in consequence became larger and more movable. Within two months this patient recovered, leaving only a soft scar tissue, a defective nasal septum and trimmed alae. This was certainly a beautiful exhibition of the power of the iodides over the later stages of syphilis.

300 and 301 Rialto building.

THE NUTRITION OF THE SKIN.

R. E. M'VEY, M. D.,
Topeka, Kansas.

The nutrition of the skin may be said to be that of nutrition in general. That is to say, the processes are the same in the various organs of the body, but some organs play a more important part in the generai metabolism of food products than others.

The lungs in man may be considered as internal projections of the skin. Both skin and lungs have the same functions in a general way,—that of respiration. Through evolution of long periods of time it is now true that man breathes more through his lungs than through his skin. Both skin and lungs absorb oxygen and eliminate carbon dioxide. Both vegetable and animal organic life at

first lived and breathed through the skin, but through processes of evolution and specialization of organs and tissues, the skin gave up the function of respiration mainly to the lungs.

In man we include in the skin the alimentary tract; that is, mucous membrane is but a continuation of the skin.

For the purpose of nutriton we have skin, lungs, an alimentary tract, a nervous system and blood and lymph vessels as carriers of food products to and from the cells of the organism.

The blood vessels of the skin are abundant in both the subcutaneous tissue and corium and as the blood passes through the capillaries it is continually losing a portion of its fluid contents through transudation, carrying with it the watery portions of the blood, which is called lymph, with various salts, gases and organic matter in the solution. The lymph vessels of the skin are also large and abundant. In the upper strata of the the corium they form a dense network of small vessels. In the epidermis juice spaces exist; the excretory ducts of the coil glands, the sebaceous glands, the prickle layer of the hair follicles and the hair bed have the same inter-epithelial juice spaces as the epidermis. The pili muscle are imbedded in lymph lakes. In the coil glands the lymph supplies the material for the production of the glandular secretions.

One way of estimating the nutrition of an organ is the amount of work it accomplishes, and the amount of its excretions. The skin having a large blood supply performs many functions. The exact amount of blood in the skin is certainly not known. The skeletal muscles use about one fourth and the liver one fourth of the blood. In excretion the skin is supplementary to that of the kidneys and lungs The skin excretes twice as much watery fluid as the lungs, which represents the carbohydrated elements of the food, while the waste from the proteid elements is eliminated by the route of the kidneys. The sweat glands constantly give off insensible prespiration. They pour out daily about two pints of the watery fluid containing some two per cent of solids, chiefly chloride of sodium, some fat, some cholesterin, some urea, carbonates, phosphates and organic acids, which indicate the nutritive functions taking place in the skin.

The nutrition of the skin depends largely upon the integrity and energy of the vasomotor nervous system which governs the blood supply of the skin. Through trophic influences an abnormal condition of the nutrition of the skin may take place, it may be thick, rough, red, liable to chronic inflammation and bullae. If there is diminished energy in the trophic centers the skin is marked by a

thinness of the epidermis, imperfect cornification and non-resistance to ordinary wear, and the dermal envelop grows slowly, loses its pliability and has a whitish appearance.

The skin may be regarded as a peripheral center of external stimulations, as it is endowed with both sensory and motor nerves. Its sensory plates are affected by the slightest variations of atmospheric conditions. The slightest zephyr produces molecular change in its sensitive muscular structures. Cold, contracting its minute blood vessels, and heat, dilating them; so that these blood vessels are in constant action and giving tone to its circulation. The skin cannot be called strictly a local nutritious center, but there is no doubt that it carries on largely its own nutritive functions, as it absorbs oxygen which is necessary to the chemical change in a nutritive molecules of food passing into the blood vessels of the papillae. There is a constant interchange of gases in its capillaries,

Kromayer finds that the papilla possesses its own enclosed lymphatic system. Unna has shown that the lymph of the epidermis is absorbed by the veins of the papillae of the skin or at least a part of it. If there is tension in the veins of the papillae, oedema of the epidermis is the result. It is also shown that the reason why skin diseases are so superficially located in the skin is owing to the enclosed lymph circle from which the epidermis draws its nutritive supply.

All foods, the cells of the tissues and the blood, are differentiated protoplasm, and nutritions means the conversion of one form of protoplasm into another form of protoplasm Protoplasm is the first form of living matter known. It is found in the sea and on the land In the sea it produces all forms of organic life; on the land all forms of life are enveloped from the amoeba to man In the vegetable it is a slimy semi-fluid cellular substance In man it is the same semi-fluid cellular substance as found everywhere in nature. The law of nutrition is the same in the plant and the animal The plant cell liberates force as does animal cell, and like it produces carbonic acid. The cells of the columner epithelium rest directly upon the papillae of the corium. They derive their nutritive supply from the blood in the papillae, These columnar cells represent a typical cell in its functions of absorption. A typical cell is surrounded by a homogeneous membrane which contains a large amount of lymph closely associated with the nutritive molecule This cell membrane has a porus partition whose pores are filled with lymph, and which separates the cell contents from the surrounding media. The cell contents may be gaseous or fluid. The passage of the nutritive molecule from the exterior of the cell to the interior must take place through this porous partition where the

nutritive element is transformed by the lymph so as to be similar to the contents of the cell. The different cells making up the corium and epidermis have a selective affinity and select from the food elements their pabulum for maintenance, repair and proliferation

The skin absorbs oxygen, and oxygen enters the hemoglobin in the capillaries of the papillae which gives the skin its beautiful appearance. The appearance of the skin may be varied through trophic influences. No other structure of the body so readily shows variations in nutrition as the skin.

When the skin is healthy and nutrition is good there is usually a fair growth of the hair. The hair is oily and contains the necessary amount of pigment. When nutrition is poor the hair is thin, scant, and the skin is pale because of the insufficient amount of blood supply From its origin it is evident that the lymph must have a composition closely similar to that of the liquor sanguinis since its nutritive supply is entirely from the lymph spaces and vessels.

The skin plays a very important part in the development of the human mind. It is through its afferent nerve plates that we have the sense of feeling, which feelings are reported to the higher ganglia of the brain where they are transformed into percepts, and percepts into concepts, and concepts into ideas, and ideas into actions, and through nervous evolution and mental development we have learned how to protect our skin from the sudden changes of the weather, extremes of cold and heat and wet and drought, by the use of fig leaves, and have also learned the ratio of food elements for the highest degree of nervous and muscular energy. Through mental evolution we have learned how to make the human skin one of nature's best pieces of architecture. If there is any such thing as human perfection it is to be found in the human skin. Art all along the centuries has been trying to imitate it in its shadings and tints of color, but never has succceeded. As to how each one shall take care of his own skin must be left to that mental guiding power within each individual.

The sebaceous glands and coil glands are constantly secreting oily substances, keeping the skin oiled and moist as a protecting agent against the absorption of too much water from without, or the transudation of fluid from within. This fatty element is liable, when excessive, to decomposition, resulting in more or less odor. Therefore, sometimes it is necessary to remove this effete material, by bathing with soft water and toilet soap. The clothes worn during the day should be exchanged and aired. During the greater part of the year the clothing should be of a light woolen fabric. Too

heavy clothing is likely to produce dilatation and relaxation of the blood vessels of the skin.

As the skin principally eliminates carbon dioxide, the food should consist of one part of proteids to five parts of carbohydrates, thus furnishing muscular and nervous tone, and the required amount of energy for its various functions.

The State Society meets in Wichita May 3, 4 and 5.

Volumes One and Two—We are offered full price for volumes one and two of THE JOURNAL.

A. M. A.—The following Kansans have joined the American Medical Association: C. P. Bartley, Spearville; C. S. Ferguson, Atchison; W. B. Newton, Glasco; W. R. Priest, Concordia; J. R. Scott, Garnett.

Subscription Price of Journal—Those who pay two dollars for the JOURNAL will have that amount (or such as is proportional to the fraction of the year remaining) credited to them when they join the State Society. We do this to protect those who wish to have the paper now, but cannot affiliate with a society for some time. We sent this issue to some who have not complied with our request of of last month, but who, as we believe, would do so on the second (and last) call. Please note the increased size of the JOURNAL and remembering that it is only the price of a house call, send us the check.

Military Medicine—Organized medicine has a work to do in reforming the medical service of our army. When we remember that in the Spanish-American war 286 died from bullets and wounds and 3,862 died from preventable diseases, we are appalled at the unnecessary loss of life, and we wonder if congress is made up entirely of politicians without even a salting of statesmen. What can be done if preventive medicine is given due prominence has been demonstrated by Japan; and if our readers have not read Dr. Seaman's account of the conditions existing in the Japanese army, they should at once get at least the article in *The Outlook* for Jan. 21, 1905. We should take up the matter in our county societies and send strong resolutions to our congressmen.

Effective Quarantine—We wish that every physician in the state could read an account of the Laredo, (Texas,) campaign against yellow fever last year as contained in the annual report of the Public Health and Marine Hospital Service just issued. It demonstrates (1) that the mosquito is the carrier of yellow fever and also (2) that to combat the spread of the disease martial law is needed,or at least that the state board of health should have real power. This latter point is important in Kansas just now when our own state board is asking for increased power for the removal of nuisances. The State Board of Health should be the organ (or committee) of the organized profession of the state and therefore have our support.

Medical Boards—Governor Hoch requested in his message the consolidation of the state Board of Health and the Board of Medical Registration. We favor this, provided that the members of the resultant board be representative of the *best* medical material rather than of the poorest (or political); and provided that the resultant board have power to really do something. It should not be medical sectarianism and other obsolete notions, but modern, scientific, broad-minded and preventive medicine that should energise the board of health of a state like Kansas. Scrutinize the membership of the boards;are they the best men of the state? If not, then it is our business to see that only the best representatives in our profession find places thereon. We are the profession organized without regard to therapeutic creed for just such work as this. WILL OUR COUNTY SOCIETIES TAKE SOME ACTION, AND THAT AT ONCE?

Medical School—We hope that our readers will endorse the movement to unify the medical instruction of Kansas so heartily that each one will work for the passage of the measures mentioned below:

"Dr. Glascock has introduced a bill which will permit the board of regents of the University of Kansas to conduct clinical work in connection with the various state hospitals affording clinical advantages, and at such other places outside of Lawrence as may in the judgment of the regents be demeed advisable.

"The regents are also authorized to accept from Dr. Simeon B. Bell of Kansas City, Kansas, for the purpose of erecting a hospital and clinical school the gift of the tract of land known as Bell's third sub-division."—*Lawrence Journal* for Jan. 17.

Owing to a peculiar conjunction of events it seems possible for the University of Kansas to establish the best medical school in this part of the world. IF KANSAS DOES NOT DO IT, MISSOURI WILL. Let each county society **at once** give Chancellor Strong a vote of confidence and send it to its legislative representative. It is worth our while, shall we not seize the opportunity?

International Therapeutics is the title of a new journal just issued in New York, of which we have had the honor to receive the first issue. In spite of the statement in the salutatory, it is nothing else than an advertising sheet to boom Fougera's and the "Anglo-American Pharmaceutical Company's" products. We trust that postoffice department will refuse its entrance to the mails as second class matter.

The State Board of Health of Illinois is doing a valuable work in publishing and distributing a pamphlet on the cause and prevention of consumption. The education of the public should be undertaken by our profession either through the state boards of health or directly, through the local societies. Each president of a county society in Kansas should ask himself, "What is our society doing to educate the public of this county?".

The Annals for Surgery celebrated the completion of its fortieth volume by getting out a monster number for December, 1904. This Journal stands without rival in the English language as the best exponent of high grade (specialistic, if you please) surgery. The December number contained about 400 pages of article from Orth (Berlin), White (Philadelphia), Cheyne (London), Warren (Boston), Foxworthy (Indianapolis), Brewer (New York), Nicoll (Glasgow), Alessandri (Rome), Dyball (Exeter, Eng.), Mayo (Rochester), Warbasse (New York), Scudder (Boston), Sheppard (Montreal), Germain (Boston), Fowler (Washington), Odiorne and Simmons (Boston), Watson (Boston). The simple enumeration of these names is sufficient to establish the high character of the number. We know that we would regard its presence on our table a great resource.

Christ's Hospital Cottage for Nervous Diseases—Christ's Hospital has announced the completion of a detached building especially arranged for the care of nervous patients. The plan contemplated is to provide a resting place far enough removed to avoid the disturbance of the general hospital, and at the same time afford opportunity for hospital care when it is required. The cottage will be under the management of Dr. W. S. Lindsay, who has devoted the past twenty-five years to the study of mental and nervous diseases in the State Hospital and in private practice. The most modern apparatus will be used to give light, heat, and electric treatment, as well as hydrotherapy and mechanical and manual massage. Dr. Lindsay's office is at 829 Kansas Avenue, Topeka.

REPORT OF A CASE OF TETANUS WITH COMPLICATIONS.*

CHAS. B. BUCK, M. D.,
Abilene, Kansas.

This case is reported, not for the reason that the subject is in any sense new (the disease is rarely seen in our section), but for the unique and (to writer's knowledge) hitherto unreported complications. Mrs. X, age 42, mother of seven children, all living; previous history good except for sharp uterine hemorrhage June 21, 1904, and for which was summoned June 22, 1904; packed to control, packing removed 14 hours later, hot antiseptic douche, no recurrence.

Was called to see same woman morning of July 6, 1904, because she had "caught cold;" had "settled in her neck" and she had been unable to swallow her breakfast. Examination showed typical case of tetanus, temp. 100.4°; pulse 107; marked trismus; tonic spasms on any sudden noise or movement. No history of wound or abrasion.

No serum (antitetanic) being available, ordered chloral hydrate and potass. bromide aa grs. x, to be repeated every four hours. At 3:35 p. m. injected 20 cc Mulford's antitetanic serum and again at 7:30 p. m.

July 8th and 9th, no serum to be had, spasms occurred oftener, lasted longer, slight opisthotonos growing more marked, rigidity appearing in lower limbs, pulse rate and temperature increasing.

July 9. Gave 10 cc P. D. & Co. serum obtained from Clay Center.

July 10. Gave 40 cc P. D. & Co. serum.

July 11. 40 cc. P. D. & Co.—Nurse recorded patient as being much more quiet during day, spasms less frequent, limbs less rigid; after 12 mid-night rested very well.

July 12. 40 cc P. D. & Co.'s serum.

July 13. 20 cc. P. D. & Co., (could get no more), pulse and temperature higher, more restless, no sleep, spasms oftener, waited till morning of July 14 for serum then gave 2 grammes (dessicated) Pasteur veterinary antitetanic.

July 15. One gramme Pasteur and 20 cc. P. D. & Co.

July 16th and 17th. Gave 80 cc. each day, P. D. & Co., pulse and temperature rising.

July 19th. Pulse 130, temperature 104° at 8 a. m., at 11 a. m.

*Read before Golden Belt Medical Society, Hope, Kansas, January 5, 1905.

pulse 148, temperature 105.2°. Swabbed out uterus with carbolic acid, followed by alcohol and drained.

July 20th. Chill about 5 a. m., temperature 104.2°, pulse 144. Stopped all medicine and gave 10 grains quinine bisulf. hypodermatically.

July 21st. Chill 8 a. m., temperature 104°, pulse 142.

July 22nd. Chill 7 a. m., lasted about 5 minutes, temperature 103.2°, pulse 120.

July 23rd. No more chills, temperature 100°, pulse 108.

July 25th. 19th day; jaws relaxed, false teeth removed.

Aug. 15th. Patient discharged, well.

The diagnosis of tetanus was confirmed in this case by Drs. Conklin and Gish. Uterus was examined July 19th, because officious neighbors insisted to husband that hemorrhage of June 22nd was an abortion, and had been improperly treated, my consultant agreed that there had been no pregnancy; having been unable to trace source of infection, we swabbed out uterus with carbolic acid and neutralized with alcohol. On that date I suggested the possibility of a malarial complication and made an examination of blood—found numerous crescentic bodies and at once began hypodermatic use of quinine, to which the response was prompt.

August 3rd. Removed a piece of bone, triangular in shape, about size of little finger nail, from roof of mouth, just posterior to incisors;—was a portion of palatal process of sup. maxillary and corresponded to an elevation on superior surface of plate of upper false teeth, bone showed necrosis and was due to pressure of locked jaws.

Resume—Diagnosis, tetanus, complicated by malaria; source of infection, undetermined.

Therapy—Serum used 310 cc. P. D. & Co.; 40 cc. Mulford and three tubes, one gramme each, of Pasteur veterinary (dessicated) antitetanic serum. The only ill effect of serum was the rash. All injections were made under aseptic precautions, no infection occurred. Quin. bi-sulph. hypodermatically deposited in tissues, several sloughs occurred. Chloral and pot. bromide did good service in quieting nervous system, should hate to rely on them alone.

The absence of two lower teeth allowed feeding and mouth temperature.

As you, Gentlemen, may surmise, veterinary serum was used with many doubts and only in the seeming hopelessness of the case. From careful watching its action would never again hesitate to use it, and *freely*, should occasion demand. Will say in conclusion that I have been unable to find any literature on its action or use in human family.

IMMUNITY.

GEORGE HOWARD HOXIE, A. M., M. D.,
Associate Professor of Anatomy in the University of Kansas, Lawrence, Kansas.

(Continued from January number.)

At first because in animals dead from anthrax, the blood capillaries were found choked with the bacteria it was thought that the cause of disease and death was the mechanical stoppage of the circulation. But in other diseases no such choking was found and it was necessary to find another theory. This was that the bacteria used up the nourishment in the blood designed for the body cells and thus left them to waste away—as some people now believe that cancer acts. This theory must however fall before the observed fact noted above that the serum and tissues of an animal dead with such disease are nevertheless good culture media for the bacteria. So when Brieger found poisonous alkaloids in decomposing meat and Sydney Martin found poisonous albumoses in diphtheria cultures, the theory of toxic action was readily accepted. In other words it has been found that bacteria secrete poisons, which, acting upon the fluids of the body, so change them that the body cells not only receive no nourishment from them but in some cases are actually destroyed. But as to the nature of these toxins, the most that we can say at present is that they are of the nature of ferments—and this does not mean much.

If now we turn for a moment to a consideration of immunity proper, we find that there are two kinds of immunity—an artificial and a natural. This natural immunity varies among races and individuals. Thus dogs are immune to tuberculosis, while guinea pigs are very susceptible to it. Rats and mice are not susceptible to diphtheria. But this natural immunity is not absolute, but may be overcome by altering the environment. So also among the races of men, Europeans suffer slightly from measles, while the natives of the Pacific Islands found it a fatal disease. Negroes are very resistant to yellow fever, but are susceptible to smallpox. How subject such immunity is to change in conditions is shown by the followig incident: Two medical students who had worked in the scarlet fever ward without contagion for two months, visited the ward one day when very tired and hungry, with the result that both took the disease and one died. Thus does natural immunity vary in individuals and according to the state of health.

For a long time the white corpuscles of the blood have been looked upon as the forces which resist infection—since it was observed that they rushed to the point of disturbance and surrounded and enclosed the foreign particles. But it is to be doubted if their role is much more than that of scavengers, and we are led to believe that the main resistance rests not in them, but in the fluids of the body, and present day study is being directed toward the changes in the composition of these fluids. Probably the fundamental observation along this line was made by Bordet in 1891, when he found that if the blood of one species of animal were injected into an individual of another species, the serum of the latter developed the property of dissolving the blood corpuscles of animals of the former species. That is, there had been developed within the body of the second species substances which were poisonous to the first species—and so poisonous that organized tissues (corpuscles) of the class used to bring about the reaction were destroyed. This then is the property utilized by the body in overcoming disease—our bodies develop substances which dissolve the bacteria causing the disease or neutralize their poisons. The substances thus devoloped are called anti-toxic if their action is to neutralize the poison of the bacteria and anti-bacterial or anti-microbic if they dissolve the bacteria themselves. What these substances are and how they act is the chief problem of modern research.

The practical application of the knowledge thus far gained is two fold; first, to secure the serum of animals immunized to diphtheria, tetanus, cholera and the plague. This serum will, of course, neutralize the toxins of the respective diseases. The serum must be introduced into the blood directly or at least through the lymphatics. The products are useless when given by the mouth. The other practical application is to use the toxins of the disease germs themselves and introduce them in dilutions, weak enough to cause no ill effects and thus develop within the human body the anti-toxin desired. Vaccination is an instance of this sort of treatment. The first method confers an immunity the onset of which is almost immediate, but which is not permanent. The second is slow in developing, but affords an immunity lasting for years. An attempt to utilize the second method was the celebrated tuberculin of Koch —a preparation which has every theoretical reason for success, but which nevertheless fails in practice.

Now the interesting study of the real character and action of these anti-toxins has not yet brought about final results. We know that an anti-toxic serum consists of two parts, one of which is

destroyed by heating to 55° C and which is a constituent of normal blood serum. The other part is resistent to heat up to about 70° C and is developed by the process of immunization.

The best explanation of the theory of immunity has been that of Ehrlich. This is his "side chain theory" and is at best only a figurative description of the process. According to this the blood corpuscle and the toxin could float together in the blood without coming into relation if there were not present on the corpuscle a substance, or morphologically speaking, a hook into which the toxine could fasten. Now it is by means of these hooks that the corpuscle obtains its food—comes into relation with the world in general. Hence if a great deal of toxin be present all the hooks on any individual corpuscle are seized upon and the corpuscle, deprived of nourishment, dies, but if only a small amount of toxin be present only a few hooks would be seized upon. Then the corpuscle deriving strength through its remaining hooks could cast off these dead hooks and build new ones. But as in all nature, the reconstructive process usually exceeds the need and more hooks are formed than can be used. These then are cast off and float about the blood ready to be siezed upon by any toxin present. But in being so seized upon they thereby exhaust in just that degree the toxin and save the corpuscles or cells. If there were an abundance of loose hooks, or side chains as Ehrlich called them, the cells would remain practically untouched by any infection. Such an over-production of side chains would be produced by the irritation set up by frequently repeated injections of small amounts of toxin. An immune serum is therefore simply a solution of these loose hooks ready to sieze upon and saturate an invading toxin and thus save the body cells.

Wassermann has demonstrated that the union between the hooks and the the toxin is a firm chemical union through requiring an hour or two for its consummation.

Vaughan at the last meeting of the A. M. A. read a paper showing that in his laboratory where he grows bacteria in such great cultures as to have them literally by the pound he has been able to isolate definite chemical compounds from the bacteria and their toxins. Now he finds that these, as all chemical substances, have peculiar affinities and he believes that the bacillus is a definite chemical molecule containing various chemical elements which enters into firm union with and draw from their former relations in the body cell certain essential elements of the body cell, as caustic soda extracts water from the tissues.

(Continued in March number.)

CAN MEN AND WOMEN DOCTORS BE A HELP TO EACH OTHER?*

MARY LOBDELL, M. D.,
Beloit, Kansas.

In answering the question included in the title of this paper, there is little to be said that would not apply equally well if the words men and women had been omitted. The question of our helpfulness to each other is of minor importance compared with the possibility of our being able to augment our common helpfulness to suffering humanity.

The woman doctor has come, and she has come to stay; though she has not, and I think never will come in alarmingly large numbers. In medicine and surgery there will always be a large demand for men, and doubtless the supply will more than equal the demand. There will always be a chance for the law of the survival of the fittest to have sway. I believe it is desirable that there should be at least one thoroughly well prepared woman doctor in each county. A county that will keep ten or fifteen men physicians busy, will support one woman without in the least damaging the others. With a proper understanding between them she may be made useful to them and they to her.

It might surprise them if they knew how often her patient is their patient, and the work she does for these patients the family physician would not be permitted to do till in many cases the time that it could be most effective is long past.

The woman doctor will often find herself medical adviser to half the family and some doctor attending the other half of the same family.

This is a situation where both doctors must use tact and discretion. Both should be fair, honorable and generous. Neither can afford to pass criticisms on the other. Each may be asked for opinions on the other's methods, but they never need pass judgement on each other. If we cannot commend another we can keep still, or truthfully answer that without having examined the case we are not in position to say what should have been done. We do well to remember that what the doctor really says and does is often greatly misunderstood.

No one who has not experienced it can understand the awful

*Read before the State Society at Topeka, May 1904.

sense of lonliness and responsibility a woman feels when she goes into a field of labor where one of her kind has never been before. She does not know how she will be received by the other doctors, or did not when I came to Kansas. I can now say to a young woman, have no fear on that score. If you are competent, and yourself never neglect to obey the ethics of the profession you will receive just and courteous treatment from competent and ethical doctors. When you call a brother doctor in council, he will not try to awe you or your patient, by an obtrusive display of his greatness or your littleness. If you are so unlucky as to meet one small enough to treat you thus, meet him with his own weapons. Use more Latin than he can think of, and next time you need council see that an honorable man gets the consultant's fee.

A woman doctor being an unknown element in the new field soon realizes that she is not judged as her brother. Her ardent supporters will insist that she instinctively must know more than a man can learn by all his study. While she knows that is all nonsense, the little she knows she had to study as hard for as any man. A woman does not instinctively understand the diagnosis and cure of diseases even of her own sex. It may be true that either sex may have opportunities to get a little information of their own sex, that is not so accessible to the other. I do not say they do, but it is possible. Her opponents insist and really think that medical science is so abstruse that only a man's brain can understand the subject. Being the only one of her kind in the place, she will not be judged as her brother is, by her individual merit. If she fails that town will decide against women doctors as a class. If a man fails he is only one failure among many successes. He is judged as an individual, not for a class.

Each woman who has proved herself good, true and competent has helped to remove this unjust prejudice. Her brothers can and do help her. They should treat her as they should treat each other. She may realize that if she has help, especially in an obstetrical case, that it will be judged that she is incompetent, while a man may call one or more to his aid and it will be judged not as his incompetence, but as the awful seriousness of the case. This must not deter her from calling for help if needed. The safety of the patient is to be if possible insured, whether her reputation suffers unjustly or not. Time will level even this wall. All things come to her who cheerfully works and waits.

If she is called in council, she should treat the attending physician as she wishes to be treated. Her experience will be different

from mine if she is never asked to see another doctor's case unbeknown to him. She should always refuse.

If a brother doctor asks us to assist him in an operation on a female patient, we may respond and take a minor place with no loss of dignity, and in that place by kind, firm, gentle courtesy help ease the mind of his patient by the knowledge that while she has what she considers his superior skill (or she would not have called him) she has one of her own sex who will be strong to help if need comes. When she falls into that sleep so like death, it will possibly be with less awe and terror because of your presence. The city doctor may never need, or be helped in this way. He has the trained nurse who fills the need of a woman to a woman. Now sisters do not exclaim we are not nurses, of course not, but we are women. When we have a surgical case the other doctor will gladly help us as we have helped him.

Doubtless every doctor wishes, and rightly, to earn money in his profession, but that must not be the chief consideration. If we never get rich let us respect ourselves, and if possible each other. Ostensibly we are banded together, as far as possible to heal the sick and prevent sickness, and untimely deaths. Whatever our clients may think we know that any one of us could die, and not quite all of medical knowledge would die with us. Then let us all when opportunity offers, give each other a helping hand, and a word of cheer. A doctor's life is too short to spend any of it in petty jealousies.

DISCUSSION.

DR. GREENFIELD.—I have enjoyed Dr. Lobdell's paper very much; she has had experience, and in her paper has given us the benefit of it. I have not such an experience to draw upon. I practiced medicine for two years in a country town of three thousand inhabitants, and found the physicians there very kind and considerate. I feel that there is a place for women in the practice of medicine—or I should not have taken it up. There will not be enough, however, who will take up the work, to rob the homes of wives and mothers. There are lines of work in medicine for which women are specially adapted, and I think that they can occupy their positions and do their work without at all interfering with or usurping the place of the men practitioners. There will probably never be too many women in the profession. I do not believe that they are especially fitted to be surgeons, but there are other lines more fitted to their capabilities. I think the men need the women in the profession, and the women need the men; there is much in which they can help each other, and thus be a boon to suffering humanity in general.

DR. TAYLOR:—I fully agree with the sentiments expressed in the paper. It seems to come so near to me from the fact that I represent the opposite race in the profession, as the doctor reprerents the opposite sex. It has been said that the negro will never be recognized in the profession, but my opinion is that if he sees to it that he educates himself along special lines, and shows skill and ethical training, he will be treated fairly and squarely by the opposite race. This has been my experience in the profession. And so it is with the women doctors. I have a very high regard for their opinions and have consulted them on many occasions, and they have always proven themselves equal to the men in the lines they have taken up.

DR. BROOKHART:—I want to endorse heartily the doctor's paper. Especially do I feel that the woman physician has a place in the field of medicine where it becomes necessary for the young girl to be treated. I think it is morally wrong for a man to undertake this early treatment, and certainly this is a great field for the lady physician. Very many young girls suffer for the proper treatment many times, thus laying the foundation for a delicate womanhood—and the woman physician is certainly a godsend in this direction especially.

DR. MAGEE:—I saw an explanation a few days ago as to why there were so many more women than men. It said that there were more women than men so that the women would not be proud, and that if there were fewer women than men they would be so. I think that we have gotten past debating the question as to whether it is the proper thing for a woman to study medicine, for certainly the woman doctor has come, and to stay. We have women physicians in this city of whom we are justly proud. It is a question of fitness and ability. Our patients are after the man or the woman who can fill the requirements and do the work necessary to be done, and the women are proving themselves efficient. That settles it; we have nothing to say about it. There are doctors and doctors, and men and men, but the physician who is fitted for the profession of medicine, and does the straight thing need have no fear, and will be properly recognized, and gets there every time.

DR. BOLTON:—I want to add my hearty endorsement of the paper read. I am thoroughly convinced that more papers just like it would be of incalculable value to the profession in general, and possibly be the means of placing the two sexes in the medical field in a position to more thoroughly understand and appreciate each other. Reverting back to the old story of the creation, an All-wise Providence realized that it was not good for man to be alone. As it was on the day of creation, so it is today; it is not good for man to be alone, whether he be a physician or not. Although the history of the evolution of woman from a beast of burden to her present plane has been a slow process, it has demonstrated to selfish man-

kind that she is his equal in mentality if not physically. There was a time in the history of medicine when women were not permitted the privilege of studying it, but I am glad that day has passed It was my pleasant privilege to be associated with women students for three years of my student days, and there is no question in my mind but that the association was beneficial, and that it infected every male student, and our school, I am proud to say, was devoid of the proverbial "rough" and "tough" condition which medical colleges are presumed to maintain. The woman physician has come, as has been said, and come to stay, and long may she stay. In every doctor's experience occasions arise when the assistance of lady physician is most desirable and acceptable, and I am heartily glad that conditions are such that their co-operation and help may be secured. The honorable physician and gentleman will always extend to them the excess of professional courtesy. I believe, like Robt. G. Ingersoll, that "women are entitled to all the rights of man, and one more—the right to be protected.

DR. DAILY:—I want to say a word in favor of the paper, as well as the writer, and to heartily endorse the sentiments expressed. From the fact that I reside in the same city, I can speak with knowledge of the doctor's sphere and field of usefulness in her community, as well as in the profession generally, she having been honored with the highest position within the gift of the profession there, that of president of the county society.

DR. JAMIESON:—It afforded me a great deal of pleasure to listen to Dr. Lobdell's paper. It is especially interesting to me because the points brought out are so fully in accord with what I have observed in many years of practice. I have long had reason to believe that well qualified lady physicians could by reason of adaptability do more for their own sex than any man can do. This is especially true when it comes to the treatment of that class of women who are highly nervous and timorous. Many a poor woman has withheld her ailments, and even severely suffered, because she did not want to submit to the treatment of a male physician. For instance, most obstetrical and genecological cases would be much more satisfactorily handled by competent women than men of equal ability. I hold, therefore, that the medical colleges in opening their doors for the thorough qualification of women to labor side by side with their brothers in the profession, are not only doing an act of fairness to those seeking the work of the profession, but also, to the female sufferer are furnishing a boon that cannot be too highly estimated.

DR. MINNEY:—When we began our medical college here fifteen years ago we believed in co-education in medicine. We had a little tilt with some of the boys who had an idea that this would act as a sort of restraint upon them, and some of them were for putting the women out. We made it pretty plain to them that if any one left

it would be the men who would get out. That settled it. From that time up to the present we have observed that general influence has been for good, the moral and social effect have been excellent. And if such influence has been effected among the younger men why may it not have its effect among the older ones in the profession. Many of us who show frost on the head had not these advantage in our student days—we felt that to be a little bit "tough" and "rough" was what was expected of us, but that time has passed away, and to a very great extent the improved state of affairs is due to the influence of the women.

Dr. R. E. McVey:—As Dr Magee has said, it is talent that tells and if a woman has ability and is fitted for the performance of work in the medical profession she has the same right there as a man I believe in the "new woman," and of her holding to her position with anybody if she is mentally qualified. I want to take a little exception to the sentiment expressed in the paper, in defense of my side of the question; she seems to have the idea that women are not acceptable in the profession, or that they be considered out of place, or something of the sort. Now if they feel this themselves, it is their own fault. I do not feel this way toward them at all and do not think it is generally so considered. My own experience with them is that they stand equal with the men, and are as bright in their studies, if there is any difference at all in their qualifications it is in the application of their knowledge.

Dr. Lobdell:—My paper has been so kindly received and discussed that there is little for me to say. In answer to Dr. Greenfield I must say there is no reason why, if a woman elects to be a surgeon, she may not succeed I have assisted Dr. May Harris Thompson of Chicago in abdominal surgery, and I have also assisted Dr Byford, and her work was as coolly and well done as his. We may not be as often called to set fractures, etc., and thus gradually we lose our skill A surgeon is not a butcher, nor a butcher a surgeon. In reply to my townsmen and to our county society for honors conferred upon me, I can only say, "Thank you," for their kindness has been demonstated by sustaining me in the office of County Health Officer for several years.

SOCIETY NEWS.

Harvey County—Harvey County Medical Society met Monday evening Jan. 2. in the office of Dr. E. A. Smolt. Drs. Smolt, Smith, Miller, Axtell, Cooper, Graybill, Harvey, Royer, and Abbey of Newton, and R. C. McClymonds of Walton were present. A paper on

Diagnosis in Diseases in Children was read by Dr. McClymonds. He called special attention to the importance of early and correct diagnosis on account of the possible effect of the disease on the whole future life of the child. Dr. J. T. Axtell read a paper on "The Physician as a Business Man," It dealt with many conditions often met in a country practice. The paper held that the practice of medicine should be placed upon a more business-like basis than it has been; that life insurance is one of the safest investments for a physician, and that busy practitioneers need some other work or interest as a relaxation and recreation. The meeting adjourned to accept the invitation of Dr. Smoot to a bountiful supper at Unruk's restaurant.

FRANK L. ABBEY,
Secretary.

Douglas County—There were present Drs Chambers, Hamman, Hoxie, G. W. Jones, Smith, Harvey, Naismith, Keith and Clark, and Gergen, a guest,

Dr. E J. Blair, formerly of Monmouth, Ill., having been certified as in good standing in the Warren County, Illinois, Society, and having paid his dues up to Jan. 1, 1906, was received as a member.

A letter from Dr. G A. Boyd, a member of this society now in Colorado, which enclosed his check for dues to Jan. 1, 1906.

It was voted that the secretary write Dr. Boyd a letter expressing the good feeling of the society and regretting that the condition of his health had deprived the society of his presence at meetings.

A committee consisting of Drs. Hoxie, Naismith and Clark was appointed to revise the constitution and by-laws in accordance with the new requirements of the State Society.

The election of officers for the year resulted as follows:

President—Dr. G A. Hamman of Lawrence.

Vice President—Dr Jas. Naismith of Lawrence.

Secretary, Dr. A. W. Clark, Lawrence.

Treasurer—Dr. E. Smith of Lawrence.

Member of nominating committee and delegate to district society, Dr. H. L. Chambers of Lecompton.

Censors { for 3 years—Dr. Chambers, of Lecompton.
for 2 years—Dr. E. R. Keith, of Lawrence.

Under supension of rules, Dr. J. P. Gergen of Big Springs was elected to membership.

A. W. CLARK,
Secretary.

The Montgomery County Medical Society was organized according to the recommendations of the State Society on the 13th of Sept. 1904, but was not reported as we wished to get all the regular physicians of the county interested. We now have twenty-two members and are having an interesting meeting every month.

W. C. CHANEY,
Secretary.

Medical Society of the Missouri Valley—In response to a cordial invitation from the Jackson County Medical Society, the semi-annual meeting of the Medical Society of the Missouri Valley will be held in Kansas City, Thursday, March 23, 1905. Those desirous of presenting papers should send their titles to the secretary not later than February 10th. Papers will appear upon the program in the order in which they are received.

A symposium of puerperal fever will be one of the features of the session. opened by Dr. R. T. Sloan of Kansas City. An invitation has been extended to the presidents of the State Associations within the territory embraced by the Missouri Valley and an interesting and profitable meeting is expected.

Dr. G. A. Boyd—Those who know Dr. Boyd will appreciate the following letter:

COLORADO SPRINGS, COLO , 1-9, 1904

Dr. A. W. Clark, 1230 Washington Avenue.
Lawrence, Kansas

My Dear Doctor Clark:—Inclosed find my check for $3, my dues to county and state for ensuing year. It is probable that I will ask for transfer to Colorado sometime this year. As it now comes to my thought I would like to remain a Kansas citizen, a member of the organized state profession, with the privilege to draw upon its resources and to try to help increase them.

For the past seven months I have been too busy with my own internal affairs to give attention to matters professional beyond reading in part my journals and gaining an education in the management of my disease. I came near killing myself twice through accident and indiscretion. At present my condition justifies a favorable prognosis. Give my sincerest regards to the Douglas County Society and to my personal acquaintances To be with you is a lost pleasure of which I am deeply conscious.

With personal and fratertal respect,
G. A. BOYD.

P S. If you should come to Colorado Springs do come and see us. Should you know of any one of our friends coming let them known they would be welcome visitors at our home.—G. A. B.

PNEUMONIA.

When called to a case of suspected lobar pneumonia I at once ordered a foot-bath, which should be given according to Dr. Rochester's method. The foot-bath should be given in bed with the patient on his back and well protected from drafts; the water should be at a temperature of 110° or 115° F. By this, I wish to accomplish two things, namely, to equalize the circulation and to quiet the nervous system. At this time I give 5 grains of calomel, followed by a saline, to empty and disinfect the alimentary canal, and stimulate the action of the kidneys. I also give salicylate of sodium in small doses, every hour, until the diagnosis is fully established. Then the patient is put upon acetate of potassium, 10 grains every four hours, with half a glassful of water, for I believe if we can stimulate the kidneys (which are nearly always now eliminating albumin) by making the blood more alkaline, the system will be relieved of the ever-accumulating toxins, which depress the nervous system and poison the heart muscle. I have a belief, confirmed by experience, that the potassium salts have some specific action in the treatment of pneumonia, and that they should be administered in some form to every case. Associated with the acetate of potassium, there is given one dessert-spoonful of liquor ammoniæ acetatis, with fluid extract of licorice, diluted with water, every two hours.

It is expected with this to relieve continually the burdened right heart, by bleeding the patient into his capillary vessels and eliminating the toxins by diaphoresis. With this also, pyrexia and cough are controlled to a great extent. If the temperature rises to 105° I usually order cold sponging or the cold pack to the chest, changing every two hours. I look for this to soothe the nervous system, even if the temperature is not materially lowered. Patients are usually grateful for this.

The method of applying the pack is the following: Fold a cotton cloth of desired width (smoothly) to four times, wring out of ice water, then place it in a flannel cloth which encircles the chest, and fasten. If the patient is excitable, use a flannel cloth instead of a cotton one If the temperature does not reach 105°, turpentine and lard is applied. I have used some of the putty mixtures which give a degree of comfort

The diet if of very great importance The patient should not be fed too often, nor too much, and the food should consist of the most digestible substances, such as milk, beef-tea, broths, beaten egg, etc. If the patient rebels against food, or is nauseated, withhold food for a time, and if nessary use nutrient enemata

Abdominal distention must be overcome, for it interferes with the action of the diaphragm, impeding respiration The distention is relieved by the use of the rectal tube, or a daily enema, and turpentine stupes to the abdomen.

The pulse should be closely studied, for it is the keynote to impending troubles. A slow pulse is not always a safe pulse, neither is a rapid pulse always one that denotes danger. It is the quality of the pulse that points either to safety or to danger, and this should be carefully watched and the indications met A hard pulse is softened with Dover's powder and nitroglycerin, and a soft pulse is strengthened with strychnine, digitalis, ergot, and *rest*

I wish to lay emphasis on the latter. How many patients have taken their departure because the family, nurse and doctor, have disturbed their rest with kindnesses, baths, and by frequently administered medicine! Plan to give the patient two-hour intervals of rest during the day, and never awaken him in the night if he will sleep Rest and fresh air are the very best of remedies in the treatment of pneumonia.

The patient should never turn himself without assistance. He should should not be allowed to sit up to nature's call The attendant should be instructed to anticipate the wants of the patient, thereby saving him thought and effort.—DR. F. D. REESE, in *Medical Record* for Nov. 26, 1904.

The First District Society will hold its meeting in the city hall, Kansas City, Kansas, on Thursday, February 9. The following have promised papers: Drs. Clark and Smith of Lawrence; Alkire and Martin of Topeka; Chambers of Lecompton; Hughes of Kansas City; I. Harkey of Gardiner; and Hastings of Olathe.

SALINA HOSPITAL.

I wish to acquaint you with the fact that the Salina Hospital and Training School for Nurses has been incorporated and established in the city of Salina.

The institution is governed by physicians, twelve in number, all residents of Salina from whose number a board of five directors is elected. The stockholders make up the medical and surgical staff.

The physicians, up to the present time interested in this enterprise are Drs. W. H. Winterbotham, N. D. Tobey, W. S. Harvey, M. Jay Brown, J. R. Crawford, Howard N. Moses, J. H. Winterbotham, A. G. Anderson, F. G. Lagerstrom, George Seitz, E. R. Tuttle and O. R. Brittain.

The hospital will be open to all cases excepting those of contagious diseases. All physicians, who are licensed and ethical, complying with the rules of the institution have the privilege of bringing to and attending at the hospital their cases.

A training school for nurses will be operated in connection with the hospital.

Very respectfully yours,

HOWARD N. MOSES,
Secretary.

Dear Doctor:—You print on page 26 of the January JOURNAL the program of the Golden Belt meeting at Hope, January 1, 1905. There were twenty-two present, five new members.

The paper of Dr. Crumbine is worthy of publication, as it refers to the whole state. His letter on pages 30-31 refer in a short way to some parts of his paper, but there is much more vital matter in the paper that should be spread abroad. The paper of Dr. W. D. Storrs, of Topeka, is timely, instructive and will prove very helpful to many or most physicians of Kansas. It deserves a wider audience. The paper of Dr. Axtell, of Newton, although it repeats the best thoughts of recent writers on that subject, yet branches into some new fields that, if known more extensively, would result in the betterment financially of many physicians in Kansas. Get at it and print it if you can.

The paper by Dr. W. F. Bowen is short, pithy, helpful, having all the elements of classical literature.

Dr. Buck's paper was read before some of us arrived at Hope.

Now with reference to Dr. Parr's criticism (page 32):—The State Journal must give space to urge and explan organization, and for reports of progress of organization. When all the counties are organized the Journal will be free to do some other work.

Page 35:—The movement of the Golden Belt to withdraw from position as fifth district was led by Dr. Crawford who urged that we would *lose our identity*. This is somewhat true, but we would lose nothing medically, surgically, intellectually, socially and but little financially. We would gain in that, all the districts would welcome us. We would all be members of the state socitey and members of the A. M. A. Now those of us who are not members of county societies are outside altogether. We need not lose a member. Those members outside our district could and would retain their membership if they saw that it paid them to attend our meetings. In time we will be the fifth district and unless others wake up and bestir themselves we will be the foremost district in the state. Fraternally.

J. T. CURTISS.

BOOK REVIEW.

THE HOUSEBOAT BOOK, the log of a cruise from Chicago to New Orleans, by William F. Waugh, boards 12 mo. pp. 211. Clinic Publishing Co., Chicago, 1904.

This has afforded the editor entertaining reading for the odd moments when his brain was too fagged for positive effort. The book gives considerable information and will be a pleasure to those who know Dr. Waugh either personally or through the pages of *The Alkaloidal Clinic*.

HOSPITALS OF KANSAS.

LOCATION.	NAME.	MANAGER.	KIND.
Caney	————	T A. Stevens	General
Clay Center	Clay County	M. C. Porter	"
Ellsworth	————	Dr. O'Donnell	"
Great Bend	Sisters	————	"
"	————	————	"
Hutchinson	Welch Hospital	H. G. Welch	"
Kansas City	Bethany	P. D. Hughes	"
"	Grandview	S. S. Glasscock	Nervous
Kingman	————	Drs. Haskins & Son	General
Lawrence	Simmons	C. J. Simmons	"
"	Lawrence	G. W. Jones	"
Leavenworth	Evergreen	C. C. Goddard	Nervous
"	Cushing	————	General
"	Leavenworth	S. McKee	"
McPherson	————	J. C. Hall	"
Newton	Axtell	J. T. Axtell	"
Salina	Salina	H. N. Moses	"
Topeka	Christ's	J. C. McClintock	"
"	Stormount	L. H. Munn	"
"	A. T. & S. F.	J. P. Kaster	"
Wichita	St. Francis	A. H. Fabrique	"
"	Wichita	————	"

Dear Doctor:—I enclose my paper on "Etiology and Prevention of Typhoid Fever" read before the Golden Belt Medical Society at Hope, Kansas, on the 5th inst. As this matter bears directly on the legislation we are asking for concerning the placing of municipal water supplies and sewerage system under the direct supervision of the State Board of Health I would be glad if you would give it space in your valuable JOURNAL, and that you would urge upon the regular profession to see their representatives and senators, urging their support of the measure. It is to be hoped that this bill may not go unheeded by the profession. So often each physician leaves legislative work for the other fellow to do and the result is that it is not done. I am satisfied that if every physician whose attention is brought to the matter by this article or an editorial from your pen would get into personal contact with their representative and senator, urging the favorable consideration of the bill, there would be no doubt about its passage. Wish best wishes I am, sincerely yours,

S. J. CRUMBINE,
Secretary State Board of Health.

STATE BOARD OF HEALTH REPORT.

January 18th, 1905.

DIPHTHERIA.

COUNTY.	CASES.	DEATHS	COUNTY.	CASES.	DEATHS
Atchison	5	1	McPherson	8	1
Barton	6	1	Montgomery	8	0
Bourbon	8	1	Nemaha	6	0
Butler	1	0	Pottawatomie	2	0
Cherokee	8	1	Rawlins	1	0
Clay	1	0	Republic	1	0
Cloud	17	8	Sherman	2	0
Crawford	15	6	Washington	8	1
Dickinson	1	0	Wabaunsee	8	0
Douglas	3	1	Wilson	8	2
Greenwood	4	2	Wyandotte	79	8
Jefferson	3	0	Topeka City	82	1
Labette	12	2	Wichita City	9	2
Leavenworth	37	1			
Lyon	7	1	Totals	271	35

SCARLET FEVER.

Atchison	2	1	Mitchell	4	0
Butler	8	0	Neosho	1	0
Cherokee	7	0	Osage	6	0
Cheyenne	11	4	Phillips	3	0
Clay	15	0	Pratt	1	0
Cloud	1	0	Rawlins	3	0
Coffee	1	0	Reno	1	0
Crawford	10	2	Republic	34	0
Decatur	3	0	Sherman	2	0
Dickinson	11	1	Trego	12	1
Douglas	9	0	Wilson	9	1
Geary	2	0	Wood on	4	0
Labette	8	0	Wyandotte	16	1
Lyon	2	0	Topeka City	14	1
Marshall	17	2	Wichita City	2	0
Marion	3	1			
McPherson	6	0	Totals	222	15

SMALLPOX.

Brown	40	0	Mitchell	4	0
Cherokee	1	0	Ness	30	0
Cloud	10	0	Neosho	8	0
Coffey	5	0	Osage	25	0
Ellis	29	0	Osborne	1	0
Franklin	5	0	Phillips	1	0
Geary	15	0	Reno	12	0
Gove	1	0	Saline	21	0
Graham	4	0	Trego	7	0
Greenwood	3	0	Wilson	7	0
Leavenworth	2	0	Woodson	6	0
Lincoln	50	0	Wyandotte	41	0
Linn	15	1	Topeka City	3	0
McPherson	31	0			
Miami	48	0	Totals	426	1

TYPHOID FEVER.

Barton	15	0	Pratt	1	0
Cheyenne	1	0	Rawlins	1	0
Decatur	1	1	Reno	1	0
Dickinson	4	2	Sheridan	1	0
Douglas	1	0	Stafford	12	0
Gray	2	0	Thomas	8	2
Jefferson	2	0	Trego	20	2
Kearny	1	0	Wilson	9	0
Kingman	1	0	Wyandotte	16	15
Labette	6	2	Topeka City	8	8
Linn	2	0	Wichita City	6	2
Marshall	2	1	Industrial Reformatory —		
Meade	1	0	Hutchinson	1	0
Ness	1	0			
Pottawatomie	1	0	Totals	120	81